

SOME SIPHONAPTERA FROM SOUTH AMERICA.

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(With 9 text-figures.)

1. *Parapsyllus coxalis* Roths. 1909 (text-fig. 67).

WHEN this species was described, no figures were given of the spermatheca and the terminal segments of the ♀ abdomen. We figure here the eighth segment, the spermatheca and bursa copulatrix, for comparison with the next species and in order to facilitate the determination of the ♀. The specimen from which the drawing is made was collected at Valparaiso on *Octodon degus*. Tergite VIII ventrally with 4 to 7 bristles, of which 3 or 4 are placed at or near ventral margin, one on side proximally of setiferous area of inner surface, and one at apical margin, the lateral bristle often absent; farther dorsal a proximal series of from 2 to 5 long bristles, often accompanied by some small ones, and still farther dorsal a submarginal row of 2 or 3; on inner surface a large number of bristles, of which 3 long ones are submarginal. Duct of bursa copulatrix (B.c.) short, upper wall of oviduct more or less regularly corrugated. Head of spermatheca (R.s.) narrowed to apex and gradually merging into tail, without sharp demarcation.

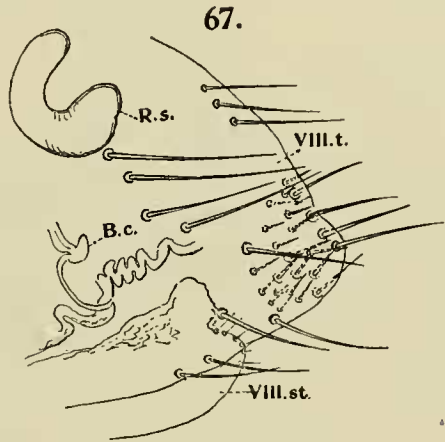


FIG. 67.—*Parapsyllus coxalis* ♀.

2. *Parapsyllus talis* sp. nov. (text-figs. 68, 69).

♂♀. Closely related to *P. coxalis*, with the same peculiar arrangement of large bristles on the forecoxa and with the same short fifth foretarsal segment. Differs in the tail-end.

♂. VIII. st. with a short ventral lobe, more strongly chitinized than the rest of the segment, from which it is separated by an incision, but produced beyond the apical margin of the portion of the segment above it; on side two bristles. Clasper (Cl) much longer than broad (as it is in *P. coxalis*), distally strongly rounded-oblique, dorso-apically projecting, but the angle strongly rounded off, at apex one long bristle, at dorsal and ventral margins a row of smaller bristles and two small bristles at oblique distal margin; manubrium (M) very much narrower than in *P. coxalis*. Movable sclerite F consisting of two portions, a proximal one which forms the joint with clasper and reaches above middle of the free outer portion, the latter widest in middle, more than three times as long as broad (measured from the most ventral point), equally and gradually narrowed ventrally

and apically, with 6 or 7 small bristles along posterior margin, tubercle of anterior margin near apex. Vertical arm of IX. st., which in *P. coxalis* bears on posterior side a large round projection, gradually narrows upwards, with a small hump at anterior margin on a level with lower margin of manubrium; ventral arm with proximal half somewhat incurved dorsally and ventrally, and distal half first dilated-rounded and then gradually narrowed to a point, this triangular portion symmetrical, with a dorsal and a ventral row of slender

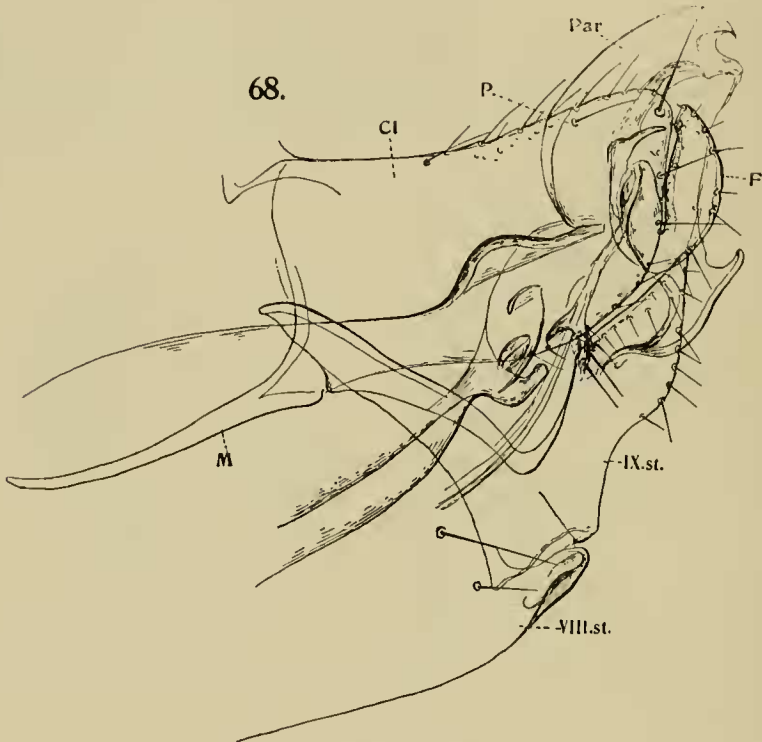


FIG. 68.—*Parapsyllus talis* ♂.

marginal bristles. Paramere of penis differs from that of *P. coxalis* especially in being enlarged ventrally, this ventral sclerite ending with an upcurved blunt hook.

♀. Sternite VII evenly rounded (text-fig. 69), bearing each side a row of 6 or 7 long bristles. On upper portion of widened area of VIII. t. 2 or 3 bristles proximally and 2 or 3 near upper oblique margin, on apical area 4 bristles on outer surface and about 15 on inner; VIII. st. with a few very thin apical bristles. Spermatheca (R.s.) distinctly separated into head and tail; head subtriangular, larger than in *P. coxalis*, and tail wider than in that species. Duct of bursa copulatrix (B.c.) much longer than in *P. coxalis*, strongly curved distad; upper wall of oviduct much less corrugated.

Argentina: Fortin Uno, Rio Negro, 19. ix. 1934, on *Microcavia australis* (Dr. J. M. de la Barrera & M. A. Riesel), 1 ♂, 3 ♀♀, received from Dr. Eduardo del Punte.

3. *Tetrapsyllus litis* sp. nov. (text-fig. 70, 71).

♂. Close to *T. tantillus* J. & R. 1923 from Argentina, of which only the ♀ is known. Bristles on occiput and pronotum and the short apical spines of the abdominal tergites more numerous. Longest bristles of antennal segment II reaching to middle of club. Above antennal groove one median bristle with a small one obliquely above it. Pronotum with an anterior row of about 12 bristles (on the two sides together). Short apical spines on metanotum 1, on abdominal tergite I 18, II 10, III 5, IV 4; bristles on tergite III 19, 18, IV 17, 18, V 18, 19, VI 18, 16, VII 14, 15; number of bristles on sternites (two sides together) III 13, IV 13, V 13, VI 10, VII 9; on sternite II 2 or 3 small ventral bristles each side and

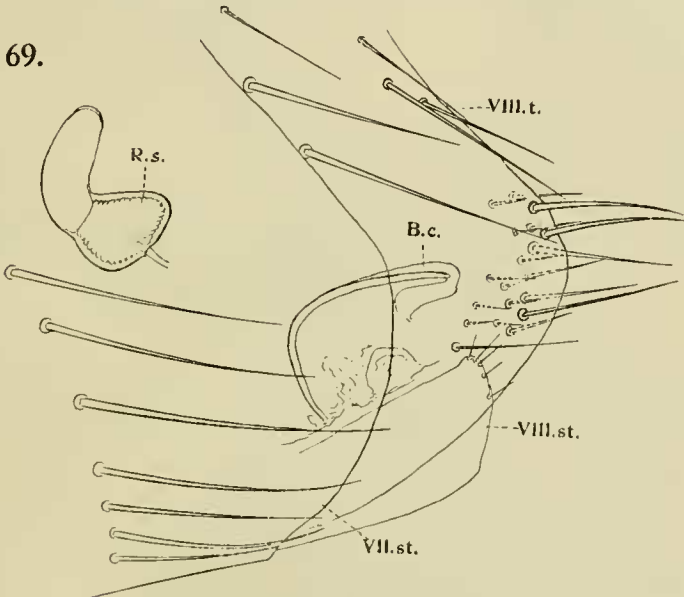


FIG. 69.—*Parapsyllus talis* ♀.

a lateral vertical row of 3 or 4 (several pale dots indicating vestigial additional bristles). On outside of hindfemur a subventral area of 6 bristles (inclusive of subapical ones), on inside 4 or 5. On outside of hindtibia a subdorsal row of 10 or 11. Longest apical bristle of hindtibia reaching to apex of tarsal segment I, that of segment I a little beyond apex of II, and that of II to middle of V.

Modified segments.—On sternite VIII (two sides together) a vertical row of 11 long bristles and in front of it 9 additional ones, most of them small. Clasper (Cl) a little longer than broad, truncate, very slightly incurved, lower angle broader and more strongly rounded than upper, which is somewhat produced (P), four long bristles at posterior margin, two above and two approximate ones below middle, at dorsal margin and on side of P some small bristles and one longish thin one, at lower angle and along ventral margin a row of 11 or 12 slender bristles; manubrium (M) narrowest in middle, broader at strongest proximal curve than widest position of ventral arm of IX. st. Movable sclerite F four times as long as broad in middle, widest at base, gradually curved, apex acuminate, at posterior margin about 6 to 8 short thin bristles. Vertical arm of IX. st. in middle about as

wide as F, hump of proximal side prominent, apex obliquely truncate, posterior margin slightly incurved and then feebly excurved; ventral arm inclusive of heel as long as vertical arm, dorsal margin first incurved and then excurved, ventral margin feebly excurved from base to apex, the sclerite widest beyond

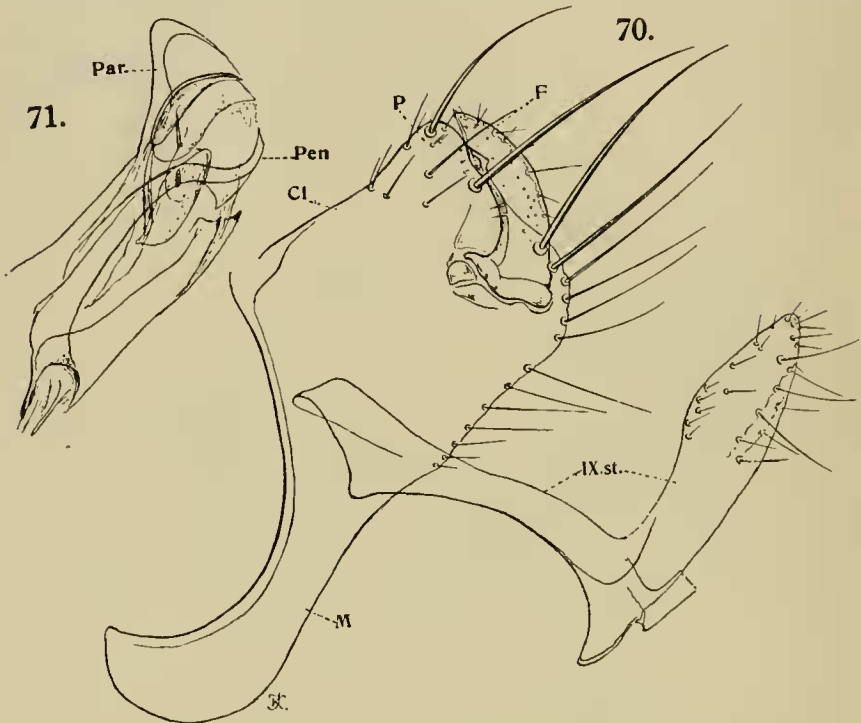


FIG. 70.—*Tetrapsyllus litis* ♂. FIG. 71.—*Tetrapsyllus litis*, penis-armature.

middle and the apical third triangular with the tip rounded off, along dorsal and ventral margins of triangular portion thin bristles, of which 3 or 4 subventral ones are fairly long, but very thin. Armature of penis (text-fig. 71, Par) characterized by the strongly convex hood and by the penis-tube being curved down and then upwards; the ventral sclerite ends in a short sharp tooth.

Length: 1.8 mm.

Chile: Valparaiso, on *Marmosa elegans* (J. A. Wolffsohn), 1 ♂.

4. *Dasypsyllus cteniopus* J. & R. 1920 (text-figs. 72, 73).

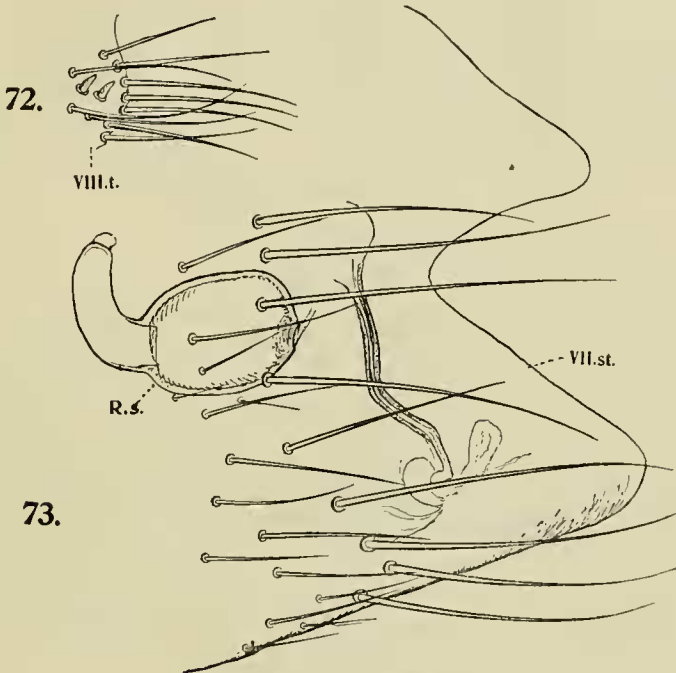
♂. *Ceratophyllus cteniopus* Jord. & Roths., *Ectoparasites*, i, p. 67, text-fig. 66 (1920) (Temuco, Chile).

Described from a single ♂. The ♀ lately received together with a small series of ♂♂ proves the sexes of this species to be more different in the development of the bristles than is usual in fleas. The ♂♂ of this series agree very well with the type-specimen, but show some individual variation, particularly in the number of the short dorsal bristles of the hindtibia varying from 7 to 10.

♀. The bristles more numerous than in ♂. Pronotum longer; between the base and the row of long bristles with more than 25 bristles, which are absent

♂. On mid- and hindfemora, outer surface, a large number of slender bristles

in three or four irregular rows, the bristles numbering on hindfemur over 30. Mid- and hindtibiae also with more lateral bristles than in ♂; the dorsal bristles not modified as in ♂, but normal, there being seven notches (inclusive of apical one), each bearing the usual pair of heavy bristles, with the exception of the first notch of which the inner bristle is thin, and the third notch which bears only one bristle. There is a likewise no comb-like development of the bristles of the first hindtarsal segment. Abdominal tergites I to V with apical spines. On



Figs. 72-73.—*Dasypsyllus cteniopus* ♀.

sternites IV to VI a posterior row of 15 or 16 long bristles, and in front of the row 14 to 16 small ones, on VII more than 25 small bristles and a row of 16, on the two sides together. This sternite (text-fig. 73) with a deep sinus above middle, the lobe above the sinus triangular, with the apex rounded, the ventral lobe similar (lateral aspect), but broader and longer. On each side of VIII. t. 40-odd bristles from the stigma downwards, the apical marginal ones close together; on inner surface two short, very stout spiniforms (text-fig. 72). Duct of bursa copulatrix long and rather strongly chitinized; head of receptaculum seminis about one-fifth longer than broad, tail a little shorter than head, with appendix.

Isla Mocha, Chile, 1. xii. 1932, in nest of *Pteroptochus rubecula* (F. C. C. Platts).

5. *Neotyphloceras crassispina* Roths. 1914.

This species consists of three subspecies distinguished by differences in the process of the ♂ elasper.

(a) *N. crassispina crassispina* Roths. 1914.

Process P of clasper shorter and more obtuse than in the other subspecies, the tip slightly curved down, and the last bristle close to the tip.

Peru: Pachacayo, 12,000 ft., on "Rat."—We have also a pair of the closely related *N. rosenbergi* Roths. 1904 from Peru (P. O. Simons), without precise locality, found on *Didelphis* sp.

(b) *N. crassispina hemisus* subsp. nov. (text-fig. 74).

Process P of clasper a little longer than in the previous subspecies, the tip slightly curved up, and the last bristle farther away from tip.

Argentine: Otro Cerro, Catamarca, x. 1919, on *Andinomys alax*, small series, type ♂, and on *Reithrodon aurinus*, 1 ♂, 1 ♀ (E. Budin); Chumbicha,

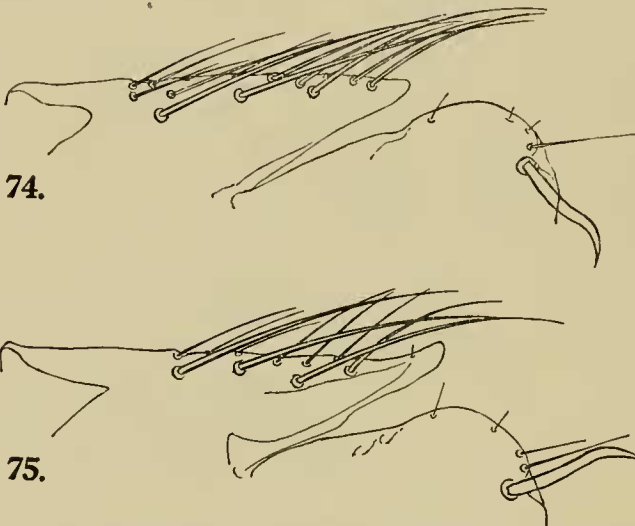


FIG. 74.—*Neotyphloceras crassispina hemisus* ♂. FIG. 75.—*Neotyphloceras crassispina chilensis* ♂.

Catamarca, ix. 1919, on *Phyllotis* sp., 1 ♂, 1 ♀ (E. Budin); Pilcaneu, Rio Negro, xi. 1919, 2 ♀♀ (H. E. Box); Piedra Pintada, Neuquen, on *Marmosa elegans*, 2 ♂♂, 3 ♀♀ (A. Lendl).—Bolivia: Potosi, ix. 1901, on *Akodon albiventer* and *A. boliviensis*, 1 ♂, 5 ♀♀ (P. O. Simons).

(c) *N. crassispina chilensis* subsp. nov. (text-fig. 75).

Process of clasper longer, curved up at apex, last long bristles much farther from tip.

Chile: Valparaiso, on *Marmosa elegans*, a series, on *Octodon bridgesi*, 1 ♀, on *Octodon degus*, 1 ♂, 1 ♀, on *Akodon olivaceus*, small series, on *Akodon longipilis*, 1 ♂, 1 ♀, on *Rattus rattus*, a series, on *Phyllotis darwini*, 1 ♂, 1 ♀, on *Abrocoma bennetti*, 2 ♂♂, 2 ♀♀ (all collected by J. A. Wolffsohn); San Christobal, on *Octodon degus*, 2 ♂♂, 2 ♀♀, on *Phyllotis darwini*, 3 ♀♀ (F. C. C. Platts).